

ABSTRACT OF THE DISCLOSURE

A microelectronic element is formed from a structure including metal layers on top and bottom sides of a dielectric. Apertures are formed in the top metal layer, and vias are formed in the dielectric in alignment with the apertures. Top and bottom conductive features are formed in proximity to the vias, as by selectively depositing a metal on the metal layers or selectively etching the metal layers. The top and bottom conductive features are connected to one another by depositing a conductive material into the vias, most preferably without seeding the vias as, for example, by depositing solder in the vias.